

EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	11573110	@ad<"20010510"	US-PGPUB; USPAT; EPO; JPO; IBM_TDB	OR	ON	2006/05/11 17:04
L2	24832	forward\$5 with table\$2	US-PGPUB; USPAT; EPO; JPO; IBM_TDB	OR	ON	2006/05/11 17:04
L3	3358105	switch\$5 bridg\$5 rout\$5 path\$2	US-PGPUB; USPAT; EPO; JPO; IBM_TDB	OR	ON	2006/05/11 17:04
L4	57273	link\$5 same port\$2	US-PGPUB; USPAT; EPO; JPO; IBM_TDB	OR	ON	2006/05/11 17:04
L5	47679	L3 and L4	US-PGPUB; USPAT; EPO; JPO; IBM_TDB	OR	ON	2006/05/11 17:04
L6	2792	L2 and L5	US-PGPUB; USPAT; EPO; JPO; IBM_TDB	OR	ON	2006/05/11 17:04
L7	14452	intel.as.	US-PGPUB; USPAT; EPO; JPO; IBM_TDB	OR	ON	2006/05/11 17:04
L8	1335	L6 and L1	US-PGPUB; USPAT; EPO; JPO; IBM_TDB	OR	ON	2006/05/11 17:04
L9	1302	L8 not L7	US-PGPUB; USPAT; EPO; JPO; IBM_TDB	OR	ON	2006/05/11 17:04
L10	33	L8 not L9	US-PGPUB; USPAT; EPO; JPO; IBM_TDB	OR	ON	2006/05/11 17:05
L11	138787	switch\$5 with network\$5	US-PGPUB; USPAT; EPO; JPO; IBM_TDB	OR	ON	2006/05/11 17:05

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L12	27	L11 and l10	US-PGPUB; USPAT; EPO; JPO; IBM_TDB	OR	ON	2006/05/11 17:05
L13	324723	short\$5 with (path\$2 link\$2 route\$2 distance\$2 (hop near2 count\$2))	US-PGPUB; USPAT; EPO; JPO; IBM_TDB	OR	ON	2006/05/11 17:05
L14	13419	L13 and l11	US-PGPUB; USPAT; EPO; JPO; IBM_TDB	OR	ON	2006/05/11 17:06
L15	4	L13 and l12	US-PGPUB; USPAT; EPO; JPO; IBM_TDB	OR	ON	2006/05/11 17:07
L16	6253	local with identifier\$2	US-PGPUB; USPAT; EPO; JPO; IBM_TDB	OR	ON	2006/05/11 17:07
L17	212219	lid\$2	US-PGPUB; USPAT; EPO; JPO; IBM_TDB	OR	ON	2006/05/11 17:07
L18	270	16 and 17	US-PGPUB; USPAT; EPO; JPO; IBM_TDB	OR	ON	2006/05/11 17:08
L19	266	18 not 7	US-PGPUB; USPAT; EPO; JPO; IBM_TDB	OR	ON	2006/05/11 17:08
L20	89	1 and 19	US-PGPUB; USPAT; EPO; JPO; IBM_TDB	OR	ON	2006/05/11 17:08
L21	49	11 and 20	US-PGPUB; USPAT; EPO; JPO; IBM_TDB	OR	ON	2006/05/11 17:08
S1	11573110	@ad<"20010510"	US-PGPUB; USPAT; EPO; JPO; IBM_TDB	OR	ON	2006/05/11 13:13
S2	24832	forward\$5 with table\$2	US-PGPUB; USPAT; EPO; JPO; IBM_TDB	OR	ON	2006/05/11 13:13

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S3	3358105	switch\$5 bridg\$5 rout\$5 path\$2	US-PGPUB; USPAT; EPO; JPO; IBM_TDB	OR	ON	2006/05/11 13:14
S4	57273	link\$5 same port\$2	US-PGPUB; USPAT; EPO; JPO; IBM_TDB	OR	ON	2006/05/11 13:14
S5	47679	S3 and S4	US-PGPUB; USPAT; EPO; JPO; IBM_TDB	OR	ON	2006/05/11 13:14
S6	2792	S2 and S5	US-PGPUB; USPAT; EPO; JPO; IBM_TDB	OR	ON	2006/05/11 13:15
S7	14452	intel.as.	US-PGPUB; USPAT; EPO; JPO; IBM_TDB	OR	ON	2006/05/11 13:15
S8	1335	S6 and S1	US-PGPUB; USPAT; EPO; JPO; IBM_TDB	OR	ON	2006/05/11 13:15
S9	1302	S8 not S7	US-PGPUB; USPAT; EPO; JPO; IBM_TDB	OR	ON	2006/05/11 13:15
S10	138787	switch\$5 with network\$5	US-PGPUB; USPAT; EPO; JPO; IBM_TDB	OR	ON	2006/05/11 13:15
S11	916	S9 and S10	US-PGPUB; USPAT; EPO; JPO; IBM_TDB	OR	ON	2006/05/11 13:15
S12	324723	short\$5 with (path\$2 link\$2 route\$2 distance\$2 (hop near2 count\$2))	US-PGPUB; USPAT; EPO; JPO; IBM_TDB	OR	ON	2006/05/11 13:16
S13	280	S11 and S12	US-PGPUB; USPAT; EPO; JPO; IBM_TDB	OR	ON	2006/05/11 13:16
S14	9966	subnet\$5	US-PGPUB; USPAT; EPO; JPO; IBM_TDB	OR	ON	2006/05/11 17:03

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S15	85	S13 and S14	US-PGPUB; USPAT; EPO; JPO; IBM_TDB	OR	ON	2006/05/11 13:16
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Relevance scale

41 [Forwarding database overhead for inter-domain routing](#)

Yakov Rekhter

 January 1993 **ACM SIGCOMM Computer Communication Review**, Volume 23 Issue 1

Publisher: ACM Press

Full text available: [pdf\(1.27 MB\)](#) Additional Information: [full citation](#), [abstract](#), [citations](#), [index terms](#)

The network layer of the current Internet is built around the packet switched architecture. As the Internet grows both in size and diversity of services, providing mechanisms to contain the growth of information that is necessary to correctly perform packet switching becomes one of the crucial issues in the overall Internet architecture. The dominate factor of this issue is the routing data stored in Forwarding Information Bases. This paper analyzes storage overhead associated with the inter-dom ...

42 [Delayed Internet routing convergence](#)

Craig Labovitz, Abha Ahuja, Abhijit Bose, Farnam Jahanian

 August 2000 **ACM SIGCOMM Computer Communication Review, Proceedings of the conference on Applications, Technologies, Architectures, and Protocols for Computer Communication SIGCOMM '00**, Volume 30 Issue 4

Publisher: ACM Press

Full text available: [pdf\(313.83 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

This paper examines the latency in Internet path failure, failover and repair due to the convergence properties of inter-domain routing. Unlike switches in the public telephony network which exhibit failover on the order of milliseconds, our experimental measurements show that inter-domain routers in the packet switched Internet may take tens of minutes to reach a consistent view of the network topology after a fault. These delays stem from temporary routing table oscillations formed during ...

43 [High-speed policy-based packet forwarding using efficient multi-dimensional range matching](#)

T. V. Lakshman, D. Stiliadis

 October 1998 **ACM SIGCOMM Computer Communication Review, Proceedings of the ACM SIGCOMM '98 conference on Applications, technologies, architectures, and protocols for computer communication SIGCOMM '98**, Volume 28 Issue 4

Publisher: ACM Press

Full text available: [pdf\(1.82 MB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

The ability to provide differentiated services to users with widely varying requirements is

becoming increasingly important, and Internet Service Providers would like to provide these differentiated services using the same shared network infrastructure. The key mechanism, that enables differentiation in a connectionless network, is the packet classification function that parses the headers of the packets, and after determining their context, classifies them based on administrative policies or re ...

44 Evaluating the impact of stale link state on quality-of-service routing 

Anees Shaikh, Jennifer Rexford, Kang G. Shin

April 2001 **IEEE/ACM Transactions on Networking (TON)**, Volume 9 Issue 2

Publisher: IEEE Press

Full text available:  [pdf\(240.55 KB\)](#) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

Keywords: explicit routing, link-state, modeling, quality-of-service, signaling, source-directed routing

45 Performance evaluation of a new routing strategy for irregular networks with source routing 

J. Fliech, M. P. Malumbres, P. López, J. Duato

May 2000 **Proceedings of the 14th international conference on Supercomputing**

Publisher: ACM Press

Full text available:  [pdf\(859.77 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Networks of workstations (NOWs) are becoming increasingly popular as a cost-effective alternative to parallel computers. Typically, these networks connect processors using irregular topologies, providing the wiring flexibility, scalability, and incremental expansion capability required in this environment. In some of these networks, messages are delivered using the up*/down* routing algorithm [9]. However, the up*/down ...

Keywords: irregular topologies, minimal routing, networks of workstations, source routing, wormhole switching

46 Automatic reconfiguration in Autonet 

Thomas L. Rodeheffer, Michael D. Schroeder

September 1991 **ACM SIGOPS Operating Systems Review , Proceedings of the thirteenth ACM symposium on Operating systems principles SOSP '91**, Volume 25 Issue 5

Publisher: ACM Press

Full text available:  [pdf\(1.90 MB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Autonet is a switch-based local area network using 100 Mbit/s full-duplex point-to-point links. Crossbar switches are interconnected to other switches and to host controllers in an arbitrary pattern. Switch hardware uses the destination address in each packet to determine the proper outgoing link for the next step in the path from source to destination. Autonet automatically recalculates these forwarding paths in response to failures and additions of network components. This automatic reconfigur ...

47 Simulation via implementation with applications in computer communication 

Kenneth Brayer, Valerie Lafleur, Gary Simpson

March 1982 **Proceedings of the 15th annual symposium on Simulation**

Full text available:  [pdf\(1.39 MB\)](#) Additional Information: [full citation](#), [abstract](#), [index terms](#)

The traditional approach to performing discrete digital simulation has been one of developing a mathematical or statistical model to represent a process, programming this model on a large scale computer, and then executing the model to obtain performance results. In this study, the authors have developed a simulation of a computer

communication network by simulating the users in a central computer and implementing the remainder of the network in actual network processors. This allows for au ...

48 A practical framework for demand-driven interprocedural data flow analysis 

Evelyn Duesterwald, Rajiv Gupta, Mary Lou Soffa

November 1997 **ACM Transactions on Programming Languages and Systems (TOPLAS)**, Volume 19 Issue 6

Publisher: ACM Press

Full text available:  pdf(412.57 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

The high cost and growing importance of interprocedural data flow analysis have led to an increased interest in demand-driven algorithms. In this article, we present a general framework for developing demand-driven interprocedural data flow analyzers and report our experience in evaluating the performance of this approach. A demand for data flow information is modeled as a set of queries. The framework includes a generic demand-driven algorithm that determines the response to query by itera ...

Keywords: copy constant propagation, data flow analysis, def-use chains, demand-driven algorithms, distributive data flow frameworks, interprocedural data flow analysis, program optimizations

49 A new distributed route selection approach for channel establishment in real-time networks 

G. Manimaran, Hariharan Shankar Rahul, C. Siva Ram Murthy

October 1999 **IEEE/ACM Transactions on Networking (TON)**, Volume 7 Issue 5

Publisher: IEEE Press

Full text available:  pdf(212.77 KB) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

Keywords: channel establishment, distributed routing, heuristics, quality of service, real-time networks

50 The landmark hierarchy: a new hierarchy for routing in very large networks 

E. F. Tsuchiya

August 1988 **ACM SIGCOMM Computer Communication Review , Symposium proceedings on Communications architectures and protocols SIGCOMM '88**, Volume 18 Issue 4

Publisher: ACM Press

Full text available:  pdf(827.90 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Landmark Routing is a set of algorithms for routing in communications networks of arbitrary size. Landmark Routing is based on a new type of hierarchy, the Landmark Hierarchy. The Landmark Hierarchy exhibits path lengths and routing table sizes similar to those found in the traditional area or cluster hierarchy. The Landmark Hierarchy, however, is easier to dynamically configure using a distributed algorithm. It can therefore be used as the basis for algorithms that dynamically configure th ...

51 Scalable high speed IP routing lookups 

Marcel Waldvogel, George Varghese, Jon Turner, Bernhard Plattner

October 1997 **ACM SIGCOMM Computer Communication Review , Proceedings of the ACM SIGCOMM '97 conference on Applications, technologies, architectures, and protocols for computer communication SIGCOMM '97**, Volume 27 Issue 4

Publisher: ACM Press

Full text available:  pdf(1.66 MB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index](#)

terms

Internet address lookup is a challenging problem because of increasing routing table sizes, increased traffic, higher speed links, and the migration to 128 bit IPv6 addresses. IP routing lookup requires computing the best matching prefix, for which standard solutions like hashing were believed to be inapplicable. The best existing solution we know of, BSD radix tries, scales badly as IP moves to 128 bit addresses. Our paper describes a new algorithm for best matching prefix using binary search o ...

52 Adaptive packet routing in a hypercube

 C-K. Kim, D. A. Reed

January 1988 **Proceedings of the third conference on Hypercube concurrent computers and applications: Architecture, software, computer systems, and general issues - Volume 1**

Publisher: ACM Press

Full text available:  pdf(565.91 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

All commercial hypercubes use fixed-path routing for packet switching. However, it has long been known that adaptive routing reduces packet delay by sending packets via less congested areas. Moreover, the hypercube topology contains many alternative, equal-length paths, suggesting the desirability of adaptive routing. Noting the importance of a communication system and the efficiency of adaptive routing, we investigate the effect of packet routing on communication latency and message through ...

53 Caching strategies in on-demand routing protocols for wireless ad hoc networks

 Yih-Chun Hu, David B. Johnson

August 2000 **Proceedings of the 6th annual international conference on Mobile computing and networking**

Publisher: ACM Press

Full text available:  pdf(1.36 MB) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

An on-demand routing protocol for wireless and ad hoc networks is one that searches for and attempts to discover a route to some destination node only when a sending node originates a data packet addressed to that node. In order to avoid the need for such a route discovery to be performed before each data packet is sent, such routing protocols must cache routes previously discovered. This paper presents an analysis of the effects of different design choices for this caching in ...

54 A quantitative comparison of graph-based models for Internet topology

Ellen W. Zegura, Kenneth L. Calvert, Michael J. Donahoo

December 1997 **IEEE/ACM Transactions on Networking (TON)**, Volume 5 Issue 6

Publisher: IEEE Press

Full text available:  pdf(317.70 KB) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

Keywords: Internetworking, multicast, network modeling, scalability

55 Issues in distributed control for ATM networks

 Jonathan S. Turner

August 1995 **Proceedings of the fourteenth annual ACM symposium on Principles of distributed computing**

Publisher: ACM Press

Full text available:  pdf(1.60 MB) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

56**METANET: principles of an arbitrary topology LAN**

Yoram Ofek, Moti Yung

April 1995 **IEEE/ACM Transactions on Networking (TON)**, Volume 3 Issue 2**Publisher:** IEEE PressFull text available:  [pdf\(1.58 MB\)](#) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)**57** Lightwave networks based on de Bruijn graphs

Kumar N. Sivarajan, Rajiv Ramaswami

February 1994 **IEEE/ACM Transactions on Networking (TON)**, Volume 2 Issue 1**Publisher:** IEEE PressFull text available:  [pdf\(1.42 MB\)](#) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)**Keywords:** de Bruijn, multihop, optical networks, shuffle**58** Active bridging D. Scott Alexander, Marianne Shaw, Scott M. Nettles, Jonathan M. SmithOctober 1997 **ACM SIGCOMM Computer Communication Review , Proceedings of the ACM SIGCOMM '97 conference on Applications, technologies, architectures, and protocols for computer communication SIGCOMM '97**, Volume 27 Issue 4**Publisher:** ACM PressFull text available:  [pdf\(1.73 MB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Active networks accelerate network evolution by permitting the network infrastructure to be programmable, on a per-user, per-packet, or other basis. This programmability must be balanced against the safety and security needs inherent in shared resources. This paper describes the design, implementation, and performance of a new type of network element, an Active Bridge. The active bridge can be reprogrammed "on the fly", with loadable modules called switchlets. To demonstrate the use of the active ...

**59** A heuristic wavelength assignment algorithm for multihop WDM networks with wavelength routing and wavelength re-use

Zhensheng Zhang, Anthony S. Acampora

June 1995 **IEEE/ACM Transactions on Networking (TON)**, Volume 3 Issue 3**Publisher:** IEEE PressFull text available:  [pdf\(851.95 KB\)](#) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)**60** Multicasting protocols for high-speed, wormhole-routing local area networks Mario Gerla, Prasath Palnati, Simon WaltonAugust 1996 **ACM SIGCOMM Computer Communication Review , Conference proceedings on Applications, technologies, architectures, and protocols for computer communications SIGCOMM '96**, Volume 26 Issue 4**Publisher:** ACM PressFull text available:  [pdf\(110.64 KB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Wormhole routing LANs are emerging as an effective solution for high-bandwidth, low-latency interconnects in distributed computing and cluster computing applications. An important example is the 640 Mb/s crossbar-based Myrinet. A key property of conventional LANs, which is valuable for many distributed applications, is transparent, reliable network-level multicast. It is desirable to retain this property also in wormhole LANs. Unfortunately, efficient, reliable multicasting in wormhole LANs is p ...

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